

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 30-55 are pending in the present application. Claims 1-29 have been canceled without prejudice and new Claims 30-55 have been added by the present amendment.

In the outstanding Office Action, Claims 1, 11-18, 19-26, 27, and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over Markhovsky et al. (U.S. Patent Publication Application No. 2006/0012476, herein "Markhovsky") in view of Yamazaki (U.S. Patent Application Publication No. 2003/0236096); Claims 2-10 and 28 were rejected under 35 U.S.C. § 103(a) as unpatentable over Markhovsky, Yamazaki, and Harbin et al. (U.S. Patent No. 5,701,583, herein "Harbin"); and Claim 25 was rejected under 35 U.S.C. § 103(a) as unpatentable over Markhovsky, Yamazaki, and Lecroy (U.S. Patent No. 3,897,151).

In light of the outstanding rejections on the merits of the claims, Claims 1-29 have been canceled without prejudice. New Claims 30-55 are added by the present amendment. New independent Claim 30 includes the feature of canceled Claim 1 and various features from canceled Claims 2 and 3. The claim amendments find support in the specification, for example in paragraphs [0064], [0076], and [0071]. New dependent Claims 31-37 are based on canceled Claims 4-10, respectively; Claim 38 is based on canceled Claim 11; new Claims 39-53 are based on canceled Claims 12-26, respectively; and new independent Claims 54 and 55 are based on canceled Claims 27 and 29. No new matter has been added.

The applied art is discussed next with regard to the new claims.

Briefly recapitulating, new Claim 30 is directed to a short-range wireless mobile communication system having a first terminal and a mobile terminal that are each configured to transmit and receive an information carrying signal wave. At least the first terminal or the mobile terminal includes a directional signal wave converter configured to transmit and/or

receive the information carrying signal wave with a directional characteristic and a control unit for controlling the directional characteristic according to a position of the mobile terminal relative to the first terminal. The position is determined based on a Received Signal Strength Indicator value RSSI, the control unit is configured to control the Half Power Beam Width (HPBW) of the directional characteristic in response to the actual distance between the first and the mobile terminal, the control unit increases the HPBW of the directional characteristic from a first value to a second value upon the distance falling short of a predefined distance value, and when falling short of the predefined distance value, the control unit is configured to not control the directional characteristic according to the position of the first terminal to the mobile terminal. Claims 54 and 55 include similar features as Claim 30.

In a non-limiting example, Figure 1 shows the first terminal 1, the mobile terminal 2, the signal wave converter 1a, the directional characteristic 1bI and 1bII, and the control unit 4, 5, 13, and 20 in Figure 3.

The claimed wireless communication system advantageously provides an efficient beam tracking that helps to increase the speed of information transmission and decreasing the power consumption related to the beam tracking.

Turning to the applied art, Markhovsky shows in Figure 1 a Bluetooth wireless communication system (see paragraph [0062]) having a master unit 21 and a slave unit 31 that transmit and receive an information carrying signal wave (see paragraph [0084]) and track at least one target (T). A decoder of the master unit includes a conventional Received Signal Strength Indicator RSSI (see paragraph [0139]).

However, Markhovsky does not teach or suggest a control unit that controls a directional characteristic according to a position of the master unit relative to the slave unit and controls the Half Power Beam Width of the directional characteristic according to a distance between the master unit and the slave unit. Further, Markhovsky does not teach or

suggest that the HPBW increases when a distance between the master unit and the slave unit falls below a specific distance nor that the control unit is configured to not control the direction characteristic when the distance between the master unit and the slave unit falls below a specific distance, as required by new Claims 30, 54, and 55.

Yamazaki discloses a mobile communication terminal mounted on a vehicle and having a directional antenna (see paragraph [0022]) and that an angle is computed from a north direction to the connected base station based on a current position of the vehicle and a position of the connected base station (see paragraph [0033]). Moreover, the directional antenna is controlled by predicting an approaching position (paragraph [0035]).

However, Yamazaki does not teach or suggest that the HPBW of the directional characteristic is controlled according to a distance between the mobile terminal and the base station nor that the HPBW increases when the distance between the mobile terminal and the base station falls below a specific distance.

In addition, Yamazaki does not teach or suggest that the directional characteristic is not controlled when the distance between the mobile terminal and the base station falls below a specific distance as required by independent Claims 30, 54, and 55.

Harbin discloses an omni-directional transmit antenna (see column 7, lines 34 to 38). Although Harbin discloses that the HPBW can have different dimensions (column 4 or column 13, lines 1 to 16), Harbin does not teach or suggest that the HPBW is controlled according to a distance between a first terminal and a further terminal. Moreover, Harbin does not teach or suggest that the HPBW is increased when the distance between the first terminal and further terminal falls below a specific distance nor that the directional characteristic is not controlled when the distance between the first terminal and the further terminal falls below a specific distance.

The other applied art has been considered but does not cure the deficiencies of Markhovsky, Yamazaki and Harbin discussed above.

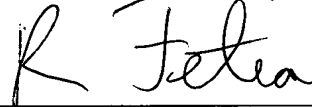
Thus, Applicants respectfully submit that none of the applied art teaches or suggests (i) the HPBW is controlled according to a distance between first and second terminals, (ii) the HPBW is increased when the distance between the first and second terminals falls below a specific distance, and (iii) the directional characteristic is not controlled when the distance between the first and second terminals falls below a specific distance, as required by new independent Claims 30, 54, and 55.

Accordingly, it is respectfully submitted that independent Claims 30, 54 and 55 and each of the claims depending therefrom patentably distinguish over Markhovsky, Yamazaki and Harbin, either alone or in combination.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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